RESEARCH FILE

November 1997 • Volume 1, No. 5

Different students, different needs

by Herb O'Heron
Senior Analyst, Research and Policy Analysis Division
Association of Universities and Colleges of Canada

For high school students, choosing which university to attend is a major step. And in making that decision, young people — and their parents — often rely on their impressions of the rest of the student body at that university. Some look for classmates with whom they share attributes, in order to increase their sense of security and belonging. Others look for new experiences and a real diversity and variety among their colleagues.

For institutional administrators, information about the composition of the student body at their university is also vital. Administrators use this information to develop a better understanding of the needs of their students — to mount new programs and services and to assess and adjust these programs and services when needed.

That's why it's so important for universities and prospective students alike to gain an understanding of the student profile at their university. It's not enough to rely on data about "average" Canadian universities or students — because when it comes to describing Canadian university students, the key word is diversity.

From university to university, there is enormous variety in students' social and educational backgrounds, in their reasons for going to university, in what they choose to study and in their lifestyles while in

Highlights

- Student profiles at Canadian universities vary greatly, with wide differences in students' social and economic backgrounds, reasons for going to university and lifestyles.
- Many Canadian students are the first generation in their families to go to university. Depending on the university, from 13 to 35 per cent have mothers who went to university, while 15 to 47 per cent have university-educated fathers.
- Many come from families with limited financial resources — about 22 per cent from families whose parents earn under $30,000 a year, and 23 per cent from families earning between $30,000 and $50,000.
- About 40 per cent work part-time during the school year. At some universities, only one-third of students work, while at others more than two-thirds hold down jobs.
- On average, 45 per cent of first-year students live at home and commute to campus — with a range from under 10 per cent at one university to more than 70 per cent at another.
- Even if they don't live at home, most students select a university close to home. In one survey, fewer than 20 per cent were enrolled at universities more than 160 km from home.
- Only about eight per cent of Canadian students go to another province for their undergraduate work.
- About 13 per cent of full-time undergraduates are aged over 24, with a range from five per cent at one university, to almost 75 per cent at another.
- In 1995, women made up more than 60 per cent of the student body in 19 universities, while only six universities had fewer than 40 per cent women.
- Because of the wide diversity in their student profiles, the programs and services universities need to offer also vary greatly.

school. As a result, any attempt to describe the average or typical university student is bound to hide more than it reveals. What this means for universities is that programs, policies and practices that work at one institution may not work for another institution with a very different student profile.

The aim of this *Research File* is to demonstrate the diversity that exists in student profiles across Canadian universities. The results of recent student surveys point to implications for university planners and highlight where more data needs to be collected. Diversity is also important to those measuring or monitoring such trends as student persistance, retention or completion rates. These trends will vary depending on the characteristics of the student body in question.

Profiling the student body

Surveys of student characteristics — both by individual universities or by groups of universities working together — are a valuable planning tool taking the pulse of ever-changing students needs and expectations. Without such information, institutions may be unaware of things they can do to enhance, enrich and tailor programs to meet various types of educational goals. Not all universities do this type of research on an annual basis — some because they find the costs prohibitive, others because the characteristics of their incoming students change more gradually and need to be monitored only occasionally.

Fortunately, a number of universities collect, analyse and publish information from their own surveys or survey collectives. Two such collectives have provided most of the information presented in this *Research File*. The Student Environment Study Group at the University of Guelph has conducted annual surveys of first-year students at seven to 10 universities since 1988, which will hereafter be referred to as the Guelph surveys. The Department of Housing and Student Life at the University of Manitoba had coordinated two surveys of undergraduate students — eight Canadian universities participated in 1994 and 10 participated in 1996. These will be referred to in this publication as the Manitoba surveys.

This *Research File* also provides some comparisons with student profiles in the United States. In the U.S., there is a much richer history in student data collection. A series of 30 annual national surveys and reports of the characteristics of first-time full-time freshmen are available under the auspices of the Cooperative Institutional Research Program[1]. In Canada, only two national surveys of student characteristics have been conducted over the last three decades — the first was the Post-Secondary Student Survey, 1974-75 — the last was the 1983-84 National Post-Secondary Student Survey[2].

Why go to university?

Students have many different reasons for going to university, but when surveyed, the two reasons they cite most often are first, to gain skills for the labor market or improve their job chances, and second, for intellectual development and personal satisfaction. Other reasons include being pushed by parents, wanting to get away from home, not being able to find work, wanting to make more money, or simply having nothing better to do. Not everyone has the same goals — and some students, even when they first enrol, have no intention of completing a degree.

On the other hand, many students have very high, even exaggerated, academic expectations. Most incoming students think they will complete either graduate or professional degrees. About 73 per cent — with a range from under 60 per cent at some universities to more than 80 per cent at others — say they expect to go beyond a bachelor's degree. However, according to the National Graduate Survey, only 22 per cent of 1990 bachelor's graduates went on to do a graduate degree, graduate diploma or first professional degree within the first two years after graduation. For universities, the challenge lies in trying to motivate students, who can be caught between ambitious dreams and realistic expectations.

Not a straight path

Not all students follow a direct route to a university degree. While most university surveys do not zero in on prior activities of incoming students, they do determine the year students graduated from secondary school or college. These surveys show that only about 70 per cent of incoming students moved directly into university after high school graduation, while almost 20 per cent graduated a year earlier and almost 10 per cent were out of high school for two years or more before enrolling in university.

This picture varies considerably by university, from fewer than half to more than three-quarters of incoming students arriving directly from high school, depending on the institution, and from only one per cent to as many as 25 per cent enrolling in university two or more years after graduating from high school.

According to the National Graduate Survey, slightly more than 25 per cent of bachelor's graduates entered university

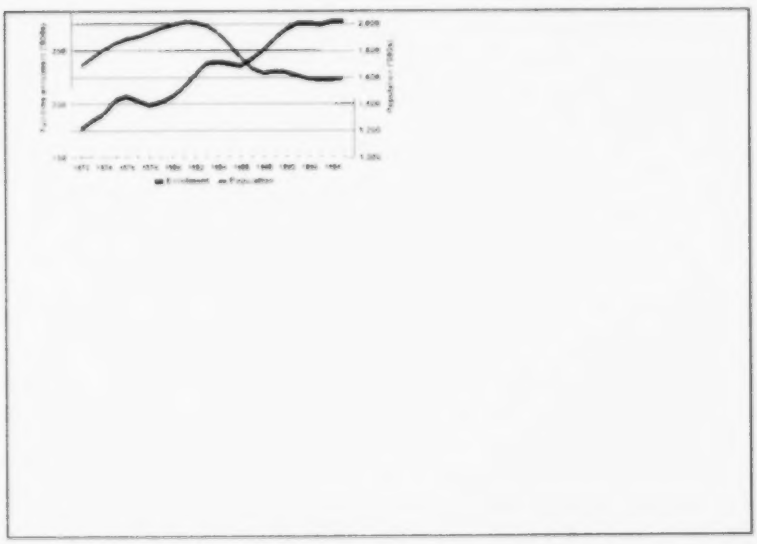
after having worked, with the actual proportion varying by province from 20 to 40 per cent. Even more graduate students take time out to work between degrees. Some 55 per cent of master's graduates and almost 40 per cent of doctoral graduates reported that work was their principal activity in the 12 months prior to enrolling in their program.

First-generation students

Many of today's students are from the first generation in their families to go to university. Surveys from 15 universities indicate that at some institutions, up to 85 per cent of the student body are the first to attend university[3]. These figures vary widely from institution to institution. From 13 to 35 per cent have mothers who went to university, while from 15 to 47 per cent have university-educated fathers.

Canada is very different from the United States in this respect. There, university education is a more common denominator in students' family backgrounds, with an average of 60 per cent of mothers and 70 per cent of fathers of freshmen in U.S. colleges and universities having gone to college[4]. This is partly a reflection of the fact that in the U.S., the percentage of young people who attend university has remained relatively constant for over two decades, with young people following in the educational footsteps of their parents. In Canada, the percentage of university-educated people has been climbing for years, meaning that more and more children of non-university educated parents are enrolling in university.

The National Graduate Survey confirms that most graduates in Canada surpass the level of education attained by their parents. For bachelor's graduates, seven in 10 have more education than their father, and the proportion is even higher for master's and doctoral graduates at nine out of 10. For universities, these statistics are often translated into "real life" stories in student counselling offices. When so many students on campus are unable to seek advice from a parent who has been through the university experience, student support programs become more vital to ease the academic and emotional transition from high school to university. Also, many universities find themselves dealing with parents who are unfamiliar with university life. In response, family involvement and support programs have been developed at Canadian universities to provide concerned parents with the information they need. Orientation sessions for the families of incoming students are offered by about half of Canadian institutions[5].

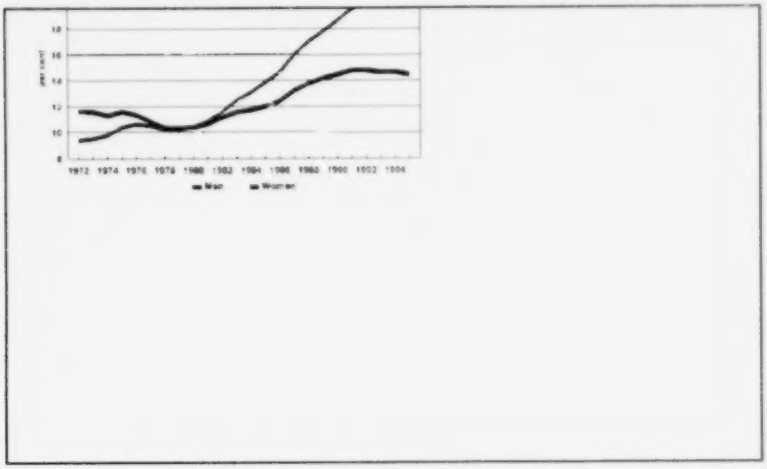


Paying for an education

Student loans, assistance from parents, academic awards, savings from summer jobs and earnings from part-time work are the main sources Canadian students rely on to pay their expenses at university. For 1997-98, the total costs associated with attending university away from home are estimated to be $11,000 a year, but vary depending on the type of living arrangement, program of study and the distance students need to travel. Student borrowing has increased in recent years both in terms of the number of students taking loans and the amount they borrow. The National Graduate Survey reports that 61 per cent of those who graduated in 1990 borrowed to finance their education, as compared to 50 per cent of the class of 1982 and 53 per cent of 1986 graduates. Those 1990 graduates who borrowed had an average debt load of more than $11,000 — 26 per cent more than those who graduated four years earlier. Estimates from Human Resources Development Canada indicate that the average debtload of 1996 graduates will be around $18,000. Most of the the growth in borrowing results from the replacement of student grants provided by provincial governments to the most needy students with provincial student loans.

The proportion of students receiving assistance varies widely by province and

by institution. According to the National Graduate Survey of the class of 1990, the percentage of graduates who borrowed to finance their education ranged from 54 per cent of Ontario graduates to 80 per cent of their Newfoundland counterparts. The most recent annual report of the Canada Student Loans Program reveals that annual CSL borrowing also varies by province — from one-quarter of students in Manitoba to 55 per cent in Newfoundland in 1995-96. Variation by university was found in a study by the Maritime Provinces Higher Education Commission, which reported that, depending on the institution, between 30 and 70 per cent of students in the Maritimes received government loans in 1995. Borrowing shifts over the course of a degree and not all students borrow every year. The Guelph survey reports that only one-quarter of students in their first year received federal or provincial student loans, varying from 11 per cent at one university to 37 per cent at another. Obviously, a student's need to borrow changes depending on factors such as the availability of family support, grants and awards, savings and income earned during the school year.



Families provide some measure of financial help to more than half of Canadian university students, the Guelph survey adds. But for many students, the amount families can be expected to provide is limited. About 22 per cent of students in the Guelph survey come from families whose parents earn under $30,000, with another 23 per cent from families earning between $30,000 and $50,000, and a similar proportion from families with incomes from $50,000 to $70,000. The remaining 32 per cent come from families where the income levels are above $70,000.

The proportion of students receiving $4,000 or more a year from their families is less than 30 per cent. Far more students, meanwhile, are clustered at the other end of the support spectrum — one-quarter receive no parental support at all and almost another quarter receive less than $2,000.

Academic awards benefit a relatively small group. From 10 per cent to almost 30 per cent of first-year students receive academic awards, depending on the university, with the majority of awards in the range of $1,000 to $2,000. Other corporate awards are received by about 12 per cent of first-year students, again most with a value under $1,000. Employer sponsorship is a reality for only a little more than one per cent of first-year students.

The 10-university Guelph survey reports that the majority of first-year students — 60 per cent — use savings from summer work to help pay their expenses. But by individual university, this figure ranges from more than 80 per cent to fewer than 50 per cent. On average, such savings amount to less than $2,000 a year. One-quarter of students use other types of savings, while fewer than four per cent have registered education savings plans. Compared with the first-year students surveyed in 1988, these students are less likely to have relied on personal savings to pay for school. Of the 1988 respondents to the Guelph survey, almost 90 per cent reported putting summer earnings toward their educational expenses and 36 per cent used other types of savings.

Finally, more than 40 per cent of students help cover costs by working part-time during the school year — almost 10 per cent work on campus and the rest off campus. The vast majority of these jobs contribute less than $2,000 towards annual university expenses.

With so many first-year students from low-income families and so few with access to loans, grants, bursaries and savings, it is not surprising that a high percentage are working part-time and living at home.

Juggling a job

Almost half of full-time Canadian university students combine work and study, but juggling a job with their studies does not appear to have a negative impact on students' academic performance.

The Manitoba survey found that slightly more than half of the undergraduate students at the 10 campuses surveyed were employed during their previous term of study and another 14 per cent were looking for work, while approximately one-third were not employed and were not looking for work. A *caveat* here: Since the survey included part-time students (who are more likely to be employed), it may have overstated the tendency to work.

Today's students are more likely to have a job than were students 20 years ago. Statistics Canada's Labour Force Survey reveals that in the 1990s, more than 40 per cent of full-time students aged 20 to 24 have a job, up from under 30 per cent in the late 1970s. Meanwhile, Statistics Canada's 1995 Survey of Work Arrangements reports that 37 per cent of full-time students have a job and among them older students and women are more likely to be working. Almost 90 per cent of part-time university students are working.

Again, this picture varies greatly from one university to another. The Manitoba survey reported a range from 38 to 58 per cent of undergraduates who had jobs, with 10 to 27 per cent who were looking for work. Other studies found that at York University, more than two-thirds of undergraduates were working while studying, and at the University of Calgary, University of Alberta and Simon Fraser University about half the full-time students were employed.

While these figures are at the high end of the range for Canadian universities, they are much lower than the 70 to 75 per cent of the U.S. freshman class that report some work activity in 1995. In a seeming contradiction, however, just over 40 per cent of the freshmen in the same study report using *income* from part-time employment while studying to defray educational costs[6]. This is closer to the Canadian experience.

Interestingly, work, at least in limited amounts (fewer than 10 to 15 hours a week), did not seem to have a negative effect on the academic averages achieved by students at Calgary or York — the only two Canadian universities that reported such statistics. As Paul Grayson, director of the Institute for Social Research at York points out, "More important than whether or not students work is *where* they work (jobs on campus have been positively linked to academic development), and how much they work...[7]".

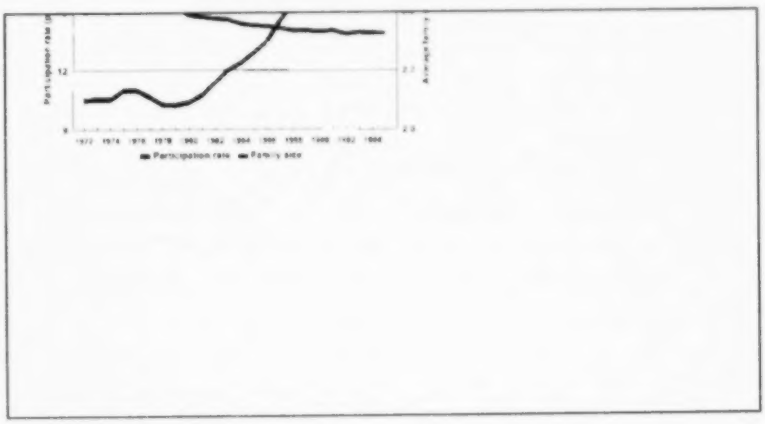
While students work for many reasons, both the amount of time they spend working and the number of their peers who work may affect their on-campus experience, both social and academic. Students who are living on or near campus may naturally develop a sense of belonging to the university community, whereas for students who work, attendance at lectures may be the only time they spend at the institution. In fact, some university administrators are becoming concerned that some students apparently spend more time commuting to and from home and work than they actually do on campus. This presents a challenge for universities trying to develop a sense of community among their students.

Staying close to home

The romantic notion of growing up and going away to university may apply in the U.S., but it is a reality for only a small proportion of students in this country. Canadian university students typically choose a university close to home, and many also live at home.

The Guelph survey of first-year students revealed that, on average, 45 per cent were living with their parents. But there were great differences among institutions, with a range from under 10 per cent at one university to more than 70 per cent living at home at another. The Manitoba survey of undergraduates at 10 universities showed a similar variation among institutions — from 10 to 60 per cent.

Even if they don't live at home, most students select a university close to their parental home. At five of the eight institutions covered in the survey of first-year students, fewer than 20 per cent of students were enrolled at a university more than 160 km from home. In the other three institutions, the proportion was higher — between one-third and one-half. A study of Quebec universities showed that parents' homes were frequently in the area of the university — this was true for one-third to



three-quarters of the students, depending on the university. Likewise, data from the Ontario Universities' Application Centre shows that many Ontario universities draw a large proportion of their students from the local communities.

In fact, Canadian students stay closer to home than their American counterparts. Only 18 per cent of first-year students in four-year U.S. colleges planned to live with their parents or relatives, and under 10 per cent of students in private U.S. universities had such plans. Moreover, about half of first-year students in four-year colleges and universities in the U.S. travelled more than 160 km to attend college[4].

Studying in another province

While most students stay close to home, a consistent seven or eight per cent a year go to another province for their undergraduate work. This pattern has prevailed since 1976, but it varies enormously depending on the province or institution.

In the Maritimes, where a number of university transfer agreements are in place, rates of mobility are higher than elsewhere in Canada. For example, more than 40 per cent of students from Prince Edward Island attend universities in other provinces. In 1995, 20 per cent of students from Atlantic Canada attended universities in other provinces, as was the case in the late 1970s.

By contrast, only six per cent of Quebec students today leave their home province to study elsewhere in Canada, compared to some 12 per cent in the late 1970s. In Ontario, on the other hand, student mobility has increased, and about six per cent of students currently leave Ontario, compared to about three per cent in the late 1970s. In the Prairie provinces, some 10 per cent study outside their home province, a proportion that has been fairly stable over the years. In British Columbia, the rate too has been stable since the mid-1980s, with about 14 per cent leaving their home province.

Like other aspects of the student profile, this factor also varies widely depending on the university. In fact, there are 15 institutions in Canada where 20 per cent or more of the undergraduates are from out-of-province, with Mount Allison University and Bishop's University leading the list, both attracting 60 per cent.

Being located close to a provincial border usually means that a university will attract students from the neighboring province, especially if there is a large metropolitan population there. In the Maritimes, with smaller provinces and less distance among institutions, this is yet another reason why such a high percentage of students attend universities outside their home province.

On the other hand, location in a large metropolitan area far from the provincial borders virtually guarantees a locally-based clientele. The University of Toronto, York University, Simon Fraser University, Université du Québec à Montréal and Université de Montréal all draw more than 96 per cent of their undergraduate students from their home province.

Religion also draws out-of-province students to denominational universities or colleges. In addition, family tradition can play a role, with students choosing to attend their parents' or family members' alma maters.

Unique programming is also a strong drawing card for out-of-province students. For instance, the University of Ottawa, which provides programs in both English and French and also happens to be located near the Ontario-Quebec border, has a large number of students from Quebec. Similarly, Université Sainte-Anne in Nova Scotia offers French-language programs that attract students from Quebec and other parts of Canada.

The influence of unique programming is most evident at the graduate level, where the number of institutions that can offer programs is limited, either by statute, as with veterinary medicine at UPEI, or due to the much smaller numbers of available students. Not surprisingly, the mobility of graduate students is twice that of undergraduates, with fifteen per cent studying outside their home province. Graduate students are also generally older and more independent, and at least in relative terms, are more actively recruited and have greater access to scholarship funds.

Opting for part-time studies

Until recently, the commonly held perception that lifelong learning would lead to increased demand for part-time education in our universities seemed to be on track. From 1980 to 1992, part-time enrolment increased by almost 30 per cent. But a sudden reversal began in 1993. In fact, the number of part-time students has declined from over 315,000 in 1992 to just 250,000 in 1996 — virtually the same number as in 1980.

Despite the decline, however, part-time study remains a prominent feature on many Canadian university campuses. Across the country, almost one in three students is at university on a part-time basis. In undergraduate diploma, certificate and other non-degree programs, almost 80 per cent

of students, are part-time. In degree programs, the figures are less dramatic but still high: 20 per cent at the bachelor's level, 40 per cent at the master's level, and 17 per cent at the PhD level.

As with other factors, the number of part-time students also varies from university to university. Not all universities have faced declining demand for part-time courses. Part-time enrolment is still growing on almost one-quarter of Canadian campuses, including some fairly significant increases at all of British Columbia's universities, Mount Allison University, École Polytechnique, McGill University, and the University of Lethbridge.

In institutions that specialize in distance education, the Université du Québec's Télé-université and Athabasca University, part-time study is almost universal. But it is also the chosen path for more than half the student body at the Université du Québec à Montréal and Brandon University, as well as at numerous small theological colleges.

At other universities, however, most students follow the more traditional full-time path. At some — the University of Alberta, Guelph, Dalhousie, Acadia, St Francis Xavier, and the University of Prince Edward Island for example — 85 per cent or more study full-time.

Why do students opt for the part-time approach? They may have a personal interest in an individual course, perhaps they have been sponsored by an employer to take a course related to their jobs. They may already have a degree and be attempting to augment their experience with courses they "missed" along the way. They may be testing the waters to see whether they like or can manage university studies, or they may be accumulating credits towards a degree.

For some part-time students, knowing which universities, and which programs within them, provide opportunities for part-time students can be a key selection criterion. Moreover, part-time students are generally older than their full-time counterparts and are likely to seek a different kind of classroom experience — one in which their personal and employment work experiences are valued and shared in the academic setting.

From the university's perspective, the more information it has on its part-time students and their objectives and motivations, the better it can tailor programs to meet their needs. For instance, program or even course completion may not be the desired outcome for many part-time students. A good base of information will enable universities not only to assess results, but also to exchange ideas with other institutions about what works for their part-time populations.

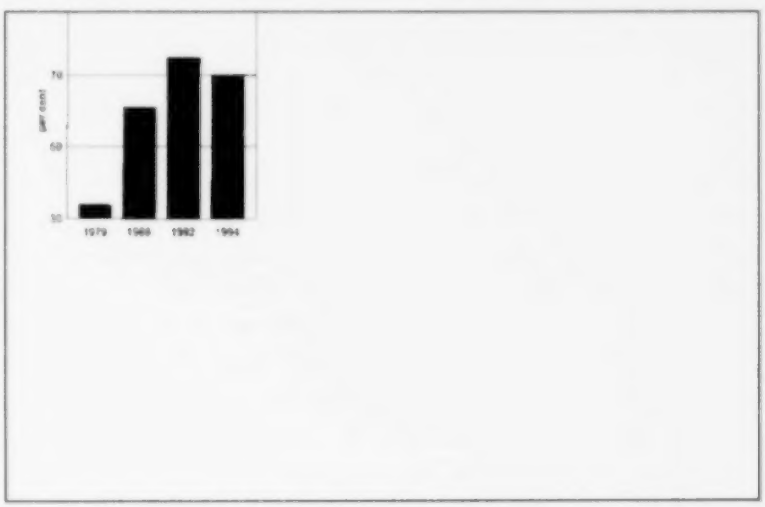
The greying of the campus

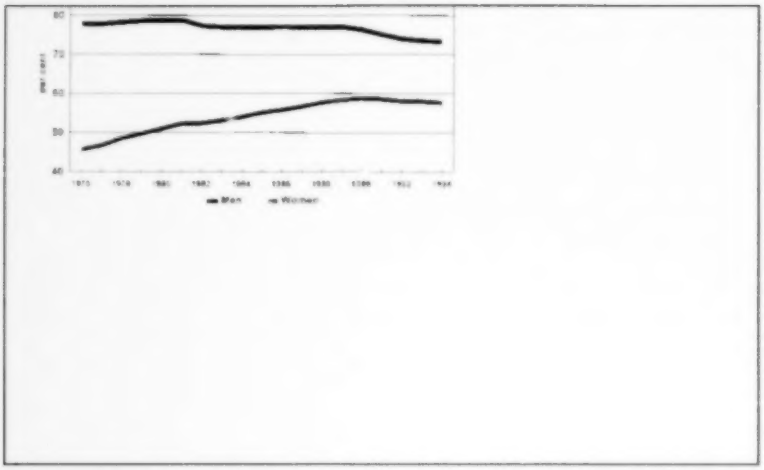
According to a widely held view, the student body at Canadian universities has been growing older in recent years. In fact, though, the average age of undergraduates has changed relatively little over the years. In 1980, 13 per cent of full-time undergraduates were over 24 years of age. By 1986, this had grown to almost 17 per cent, but the proportion has remained virtually unchanged since then. Nevertheless, they are significant in number, — with some 85,000 full-time undergraduates who are more than 24 years old. Moreover, the percentage of full-time undergraduates over 30 years of age is just over seven per cent, up from five per cent in 1980.

A more significant shift in age has occurred at the graduate level, however. In 1995, 53 per cent of all graduate students were over 30 years of age, up from 44 per cent fifteen years earlier.

Part-time students have always been older than their full-time counterparts. In 1995, 70 per cent of part-time undergraduates were over 24 years of age, while 70 percent of part-time graduate students were over 30 years of age.

But even though they're older than full-time students, part-time students at the undergraduate level are relatively younger than they were 15 years ago. During the 1980s, the part-time undergraduate student





population grew in all age groups, and those under age 25 accounted for a constant 25 per cent share. By 1995, this share had climbed to 30 per cent — not, however, because there were more young part-time students, but rather because there were significant declines in the number of older part-time students in the first half of the 1990s.

At the graduate level, however, the part-time student body *is* getting older. The proportion over the age of 30 is up to 70 per cent from 60 per cent in 1980. For graduate students, most of the shift took place during the 1980s, and since then there has been little change.

The proportion of older undergraduates varies widely among Canadian universities — from about five per cent of full-time undergraduates at Mount Allison and Wilfrid Laurier University to almost 75 per cent at Saskatchewan Indian Federated College and Télé-université. In about one-quarter of our universities, fewer than 10 per cent of undergraduates are over the age of 24, while in 15 institutions the proportion is above the 25 per cent mark.

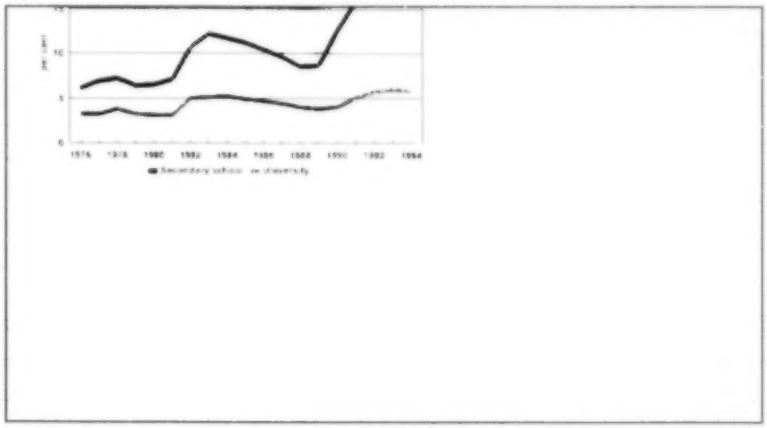
Given the predominance of older students in graduate programs, it is on campuses with a large proportion of graduate students that the "greying" of the student population has the greatest impact. Graduate students comprise more than 20 per cent of all full-time students at seven university campuses across the country, and more than 10 per cent at 19 other universities. However, at almost one-third of our universities, there are no graduate programs, hence, with some exceptions, fewer older students.

Women on the increase

Until 1960, women accounted for no more than one out of every four students, and often closer to one in five. By 1970, that ratio had grown to one in three, and by 1989 more women than men were enrolled full-time in Canadian universities.

While women's numbers have grown fastest at the undergraduate level — for example, by 1987 there were more women than men in bachelor's programs — there have also been tremendous increases at the graduate level. In 1995, the number of women enrolled full-time in master's programs was above the 20,000 mark, only a few hundred lower than the number of men. At the doctoral level, four out of 10 students (out of a total of almost 28,000 in 1995) are female, up from under two in 10 at the beginning of the 1970s.

In 1995, women accounted for between 50 and 60 per cent of full-time undergraduate students in more than two-thirds of Canadian universities. There were 19 institutions where women made up more than 60 per cent of the full-time student body, with two having more than 80 per cent — Brescia College and Mount Saint Vincent University. There were only six universities where women accounted for less than 40 per cent of the full-time students, with just one below 20 per cent — the École de technologie supérieure, which focuses exclusively on engineering and technical education, — the field with the smallest proportion of women.



Women account for between 40 and 60 per cent of the graduate students in two-thirds of the universities with graduate programs, while they represent 60 per cent or more in 10 universities and under 40 per cent in a dozen universities.

A large majority of students enrolled in part-time undergraduate programs (63 per cent) are women, and women also comprise the majority of part-time graduate students (53 per cent).

In seven of the nine major fields of study, women now comprise over 55 per cent of full-time undergraduate and more than 45 per cent of graduate students, in most cases representing substantial gains over the numbers in 1980.

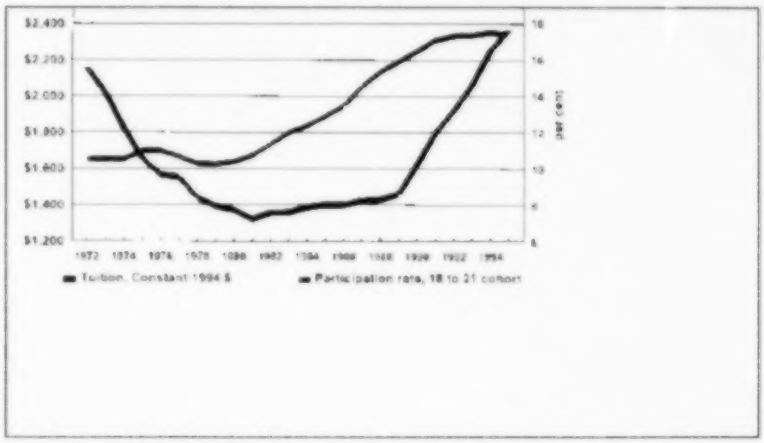
But some fields are still not attracting many women. For example, in 1995, only 20 per cent of the students in engineering and applied sciences were women, even though that was double the percentage for 1980. And while the proportion of women in mathematics and physical sciences had grown, they still accounted for only 30 per cent of undergraduates and 25 per cent of graduate students in 1995.

Universities more specialized

Student interest in particular fields of study can change radically within a short period of time. In Canada, we have seen enrolment in some fields drop by half in as little as five years, while other fields have more than doubled. This demonstrates how quickly student preferences change in reaction to labor market trends, public perceptions and other signals. Moreover, it shows that Canadian universities are flexible and can respond quickly to variations in student demand.

In some disciplines such as sociology, biology, psychology and environmental studies, enrolment has increased steadily since the mid-1980s. Others — geology and more recently, economics and mathematics — have seen their enrolment fall. Also noteworthy are the fields in which enrolment trends over the years have fluctuated. For example, in the mid-1970s, elementary and secondary teacher training had 40 per cent more students than in 1984. Enrolment rebounded to historical highs by the end of the 1980s before falling again in the early 1990s.

Enrolment trends in computer science are also noteworthy. The number of computer science degrees granted quadrupled between 1974 and 1984, then fell by more than 40 per cent by 1991, before surging back to an all-time high in 1995. In parallel, the U.S. experienced tremendous growth in this field in the 1970s and early 1980s. There, enrolments declined by almost 50 per cent, but unlike the Canadian case, these numbers have not yet rebounded. The subsequent decline in the number of people getting computer science degrees in the U.S. helps, in part, to explain the current shortages of graduates in this field in the U.S., and why there is so much talk of "raiding" of Canadian students by American high tech companies.



Such figures illustrate the need for long-term thinking by university managers. The dramatic resurgence in computer science might not have been possible if a number of Canadian universities had closed or cut back their computer science programs in response to enrolment declines. Shifts in enrolment do not always correspond with labor market trends. Student preferences are obviously influenced by several factors, some more observable than others. As a result, it is not easy to predict which disciplines will increase or decline in popularity.

A common misperception is that universities in Canada are simply replicas of each other, offering the same degree programs in all subject areas. In fact, there is a high degree of concentration or specialization in most universities. Some of these specializations are well known — for example, engineering at École Polytechnique in Montreal. Others are less obvious. Almost half of the undergraduates at the University of Waterloo are enrolled in engineering.

mathematics or physical sciences, but across town at Wilfrid Laurier University, these fields account for only four per cent of undergraduate enrolment, while the social sciences are the field of choice for 60 per cent of students. More than three-quarters of the undergraduates at Saint Mary's University, Bishop's University, Trent University, the University of Winnipeg and Simon Fraser University are enrolled in general arts and science, humanities or social sciences (including business). At Dalhousie University, Queen's University, University of Guelph and University of Alberta, meanwhile, more than 35 per cent of bachelor's students are in health and biological sciences, engineering, mathematics or physical sciences.

Coming to Canada to study

Students come from many other countries to attend Canadian universities. Hong Kong, the United States, China, France and Malaysia are the top five sources for international students in Canada.

In 1995, more than 25,000 international students were attending Canadian universities full-time. Visa students made up fewer than three per cent of bachelor's students, just over one out of 10 master's students and just under one in four PhD students.

Across Canada in recent years, the number of international students has been declining. In fact, the last growth phase of enrolment of international students ended in 1991. Since then, declines have been 18 per cent at the undergraduate level and 16 per cent at the graduate level.

As with other student demographics, the enrolment of visa students has varied from university to university. At 11 institutions, visa student numbers have more than doubled in undergraduate programs, while 34 universities have seen declines. During the same period, graduate enrolment of visa students has more than doubled at 10 universities, while nine have lost graduate students.

Some universities are intentionally trying to attract international students, and their efforts are paying off. At the University of Lethbridge, Acadia University and the University of Winnipeg, for example, international students account for six to eight per cent of the undergraduate population.

Still, overall the numbers of visa students are on the decline, and many observers of the Canadian university scene attribute the drop to increased marketing of universities in countries such as Australia and the United Kingdom, and charge that Canadian universities are losing market share of international students. And at first glance, the enrolment drop — especially at the graduate level — seems to spell trouble for certain universities, where more than half of the students enrolled in some graduate programs are visa students.

But the figures are somewhat misleading. Some of the decline can be attributed to the fact that in recent years, the number of visa students opting to become permanent residents has grown to 2,000, up from about 500 in the mid-1980s, according to special tabulations by Statistics Canada. For example, many students from Hong Kong, China and countries in the Middle East have switched from student visa status to permanent residency because of political changes at home. Since 1991 — the year the decline in international student growth began — the number of students attending Canadian universities with permanent resident status has increased by 8,000. The net result is that there are now more foreign nationals with permanent resident status than there are visa students at Canadian universities.

Many of the students with permanent resident status — especially those who have switched their immigration status while students — are virtually identical to their visa student counterparts, both in terms of the valued international perspectives they bring to campus, but also in the kinds of additional student services they require from the universities they attend.

Services for international students deal with the unique situation of students who have moved thousands of kilometres away from their families and friends and have been transplanted into a culture that may be dramatically different than what they are used to. Typical international student services range from programs in which a host family helps to introduce a newly arrived foreign student to Canadian society to helping students deal with legal issues such as student visas and work permits. For universities with high numbers of international students, such services are a necessity — whether the students are visa students or permanent residents.

Getting the most out of university

Programs designed to help students get involved in university life can significantly improve the retention rate of an institution — and make for a better experience for students. Such programs include academic and orientation programs for first-year students, personal and career counselling, skills seminars, work opportunities, extracurricular activities, and integrated residence-based programs*. A host of other student services are offered by many universities.

But given the wide variation in student profiles, the optimal set of programs and services will vary among institutions (or even among departments within the same university). What works in one situation will not necessarily work as well, or at all, in another. Equipped with information on the composition of its student body, universities can determine the services that will best meet the particular needs of their students. In this way, each institution attempts to create a mix of programs and services that will maximize the impact of its student service dollar, and create an environment in which students can derive the greatest academic and personal benefit from their university experience.

Acknowledgements

Thanks to Brian Pettigrew at the University of Guelph, Paul Grayson at York University, and Garth Wannan at the University of Manitoba for contributing both the data and their very valued insights to this analysis. Their efforts are to be applauded and, it is hoped, will continue for many years to come.

Endnotes

1. Astin, A.W.; Parrott, S.A.; Korn, W.S.; Saw, L.J., *The American Freshman: Thirty Year Trends*, Higher Education Research Institute, Los Angeles, 1997.

2. The Institute for Social Research at York University will pilot a survey of undergraduate students to be conducted in January 1998. This survey should complement and supplement the information produced by earlier surveys.

3. These surveys include the Guelph surveys and five other institutional surveys.

4. The college experience in the US includes both 2 and 4-year programs while in Canada these percentages only include degree granting institutions.

5. Chapman, J.; Gilbert, S.; Dietsche, P.; Gardner, J.; Grayson, P., *From Best Intentions to Best Practices: The First-Year Experience in Canadian Postsecondary Education*, National Resource Center for the Freshman Year Experience and Students in Transition, University of South Carolina, 1997, page 34.

6. Astin et al, page 26.

7. Chapman et al, page 57.

8. Sax, L.J.; Astin, A.W.; Korn, W.S.; Mahoney, K.M., *The American Freshman: National Norms For Fall 1995*, Higher Education Research Institute, Los Angeles, 1995, page 13.

9. An analysis of the specific programs and services to universities provide is beyond the scope of this paper. For an analysis of first-year experience programs see *From Best Intentions to Best Practices: The First-Year Experience In Canadian Postsecondary Education.*

The AUCC *Research File* is a series of short papers which explore current issues in higher education.

Titles of earlier *Research Files* include *Undergraduate enrolment forecasts: a tricky science*, *A primer on performance indicators*, and *The infrastructure of academic research.*

The *Research File* is published four times a year by the Research and Policy Analysis Division of AUCC. The division welcomes comments and suggests for possible topics. For additional information or submission inquiries, contact Robert Davidson, director, at (613) 563-3961 ext. 202 or via e-mail at rdavidso@aucc.ca

Read wisely. Speak knowledgeably.

Order AUCC publications today...

Reseach File

Short papers which explore current issues in higher education. The 1997 series focuses on issues related to undergraduate education including enrolment trends and student body characteristics. 1996 topics: Class size; Performance indicators; Academic freedom; Infrastructure of academic research.

Available in English or French. 4 issues per year. ISSN 1201-639X. Price per year/per issue: Canada $60/$20; USA $63/$23; other countries $67/$27. 1996 back issues: Canada $3; USA $5; other countries: $10.

University Affairs

University Affairs is Canada's premier higher education newsmagazine, providing a balanced and informative look at the latest issues shaping our campuses. *University Affairs* is Canada's largest source of employment opportunities aimed at the university community.

Bilingual. 10 issues (not in June and August). ISSN 0041-9527. Annual subscription: Canada $35; USA $49; other countries $75. No payment required when mailed to an AUCC member university address for faculty, staff or students.

The Directory of Canadian Universities

The Directory of Canadian Universities is the only official guide to more than 10,000 university programs fom coast to coast. This single reference volume helps students to find the universities and programs that meet their needs, with details on character and size of each institution, costs, housing facilities, enrolments and services. The directory also provides a guide for the evaluation of credentials and credits.

Bilingual. Annual. Summer release. ISSN 0706-2338. 1996-97 edition price: Canada $42; USA $47; other countries $57.

Universities Telephone Directory

The *Universities Telephone Directory* conveniently lists the names, titles, addresses and direct telephone, fax and e-mail for more than 7,000 senior academics and university administrators. The directory puts you in touch quickly with the right person on campus — the most effective way to get answers and action.

Bilingual. Annual. Fall release. ISSN 0847-3536. 1996-97 edition price: Canada $42; USA $47; other countries $57.

Trends: The Canadian University in Profile

Trends presents in-depth and expert analysis on emerging trends in five key areas. You'll find graphs and textual information on enrolment, degrees, faculty, finance and research. Disk of statistical tables included with each copy. It's a must-have reference.

Available in English or French. ISSN 0847-5482. 1996 edition price: Canada $28; USA $31; other countries $45.

The Changing World of Scholarly Communication: Challenges and Choices for Canada

Since 1994, the AUCC and the Canadian Association of Research Libraries have studied the challenges facing scholarly communication. In November 1996, the AUCC/CARL Task Force issued this report with its recommendations to ensure academic libraries can continue to support university research and scholarship.

Bilingual. ISBN 0-88876-180-5. Free.

UniWorld

A biannual insert to *University Affairs* covering what Canadian universities are doing in the area of international cooperation. We profile recent discoveries and new ventures by Canadian researchers working with partners in other countries. Each issue examines a different theme.

Bilingual. Two issues per year (fall, spring). ISSN 1183-725-X. Insert available as part of subscription to *University Affairs*. Annual subscription: Canada $35; USA $49; other countries $75. No payment required when mailed to an AUCC member university address for faculty, staff or students.

Contact AUCC Publication Sales today to order your copies of these and other essential materials.

(613) 563-1236 ext. 205 (credit card orders only)
Fax: (613) 563-9745
E-mail: sales@aucc.ca
World Wide Web: http://www.aucc.ca

AUCC publication prices include shipping, handling and all applicable taxes. All sales are final. Payment must accompany order. Purchase orders are not accepted. All payments from outside Canada must be by credit card or an international postal money order in Canadian dollars.

RESEARCH

Volume 2, Number 2
November 1997
Copyright: Association of Universities and Colleges of Canada
ISSN 1201-639X

Copies may be obtained from:
Publications Office
AUCC
350 Albert Street, Suite 600
Ottawa, Ontario K1R 1B1

Association of Universities and Colleges of Canada
Association des Universités et Collèges du Canada